ABSTRACT

Disclosed are a substrate with a microstructure formed thereon and a manufacturing method thereof, in which one substrate is attached to the other substrate with a micropattern formed thereon to form air gaps between the substrates, thereby relaxing stress applied to the substrates at a process of manufacturing a semiconductor device or display panel and also easily detaching the other substrate (temporary substrate) from one substrate (upper substrate) after the completion of the process. The substrate includes a temporary substrate supporting an upper substrate on which a device is formed at a process of manufacturing the device, and removed from the upper substrate after the process, a buffer layer formed on an upper surface of the temporary substrate to have a plurality of shapes with air gaps spaced apart from each other at regular intervals, and an adhesive layer formed on the buffer layer so that the upper substrate is adhered to an upper surface of the adhesive layer. Since the air gaps relax the stress applied to the substrate at the process of manufacturing the microelectronic device, display panels, or sensor devices, it can minimize deformation of the substrate, thereby reducing a fraction defective.